

Wastewater Target Prioritization Survey

Houston Wastewater Epidemiology designed a Wastewater Target Prioritization Survey with the intent to identify virus/pathogen targets to potentially include in expanded wastewater surveillance. The survey was distributed to local infectious disease doctors and subject matter experts on October 28, 2022.

Results

The survey received 10 responses, and the results of the survey were analyzed and shared with the Wastewater Advisory Committee. With guidance from the committee, the following viruses/pathogens have been identified as the most important and actionable targets to include in expanded surveillance, with the appropriate level of sampling. Prioritization of these targets was independent of the ability to detect the virus/pathogen in wastewater.

Virus/Pathogen	Citywide	Schools (K-12)	Congregate Living Facilities (Nursing Homes, Detention Centers, etc.)
Salmonella	X		
Multidrug-Resistant Acinetobacter (MDR-A)	X		X (Long-Term Care Facilities/Nursing Homes)
Neisseria Meningitidis, Invasive (Meningococcal Disease)		X	
Carbapenem-Resistant Enterobacteriaceae (CRE)	X		X (Long-Term Care Facilities/Nursing Homes)
West Nile Virus	X		
Measles (Rubeola)	X	X	
Shigellosis	X		
Shiga Toxin-producing Escheria Coli (STEC)	X		
Hepatitis A	X		X (Homeless shelters)
Pertussis		X	
Mumps	X		

Rubella	X		
Candida Auris	X		X (Long-Term Care Facilities/Nursing Homes)
Zika Virus	X		
Wastewater Advisory Committee: Edward Septimus, MD; David Persse, MD; Robert L. Atmar, MD; William Miller, MD; Jacquelyn Minter, MD; Mayar Al Mohajer, MD; Flor Munoz-Rivas, MD; Samuel A. Shelburne, MD			

Additional targets that were suggested to include as part of the expanded sampling efforts were **Norovirus** (citywide) and **Carbapenem-resistant Acinetobacter Baumannii (CRAB)** (citywide and in LTCFs/nursing homes). Some targets to consider further down the line were **Listeria**, **MDR-Pseudomonas**, and **antibiotics in wastewater**.

Next Steps

The Houston Wastewater Epidemiology is looking to distribute the Wastewater Target Prioritization survey to an expanded audience of infectious disease doctors beyond the Houston area. The results from the expanded survey may help to inform the Centers for Disease Control and Prevention (CDC) and the National Wastewater Surveillance System (NWSS) programs. The results can also serve as preliminary guidance for other jurisdictions that may be looking to strengthen their wastewater surveillance program.